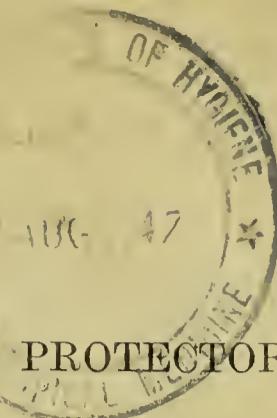


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N Y A S A L A N D



Report of the Medical Department for the Year 1946

SECTION I. ADMINISTRATION

A. Staff

The position at Headquarters was made difficult by the absence throughout the year of a substantive Director. Dr. T. A. Austin, who went on leave before the year began, was appointed to Uganda whilst on leave, and returned to Nyasaland only for a short period in June to pack his kit. Dr. R. Calleja, O.B.E., Senior Medical Officer, acted as Director throughout the year.

2. The position would have been even more difficult had not the creation of the post of Deputy Director been approved by the Secretary of State. Dr. W. H. Watson, Senior Medical Officer, acted in that capacity from the beginning of the year, and was in December appointed substantive Deputy Director with effect from the 1st April.

3. The absence on leave prior to retirement of Dr. H. G. Fitzmaurice and the employment at headquarters of both Dr. Calleja and Dr. Watson meant that throughout the year there was not a substantive Senior Medical Officer in the country. As a result partly of this and partly of the lack of Medical Officers both interested and experienced in medical administration, the development of the provincial medical system did not proceed beyond the employment of a single Medical Officer of seniority and experience as part-time Provincial Medical Officer for the Northern and Central Provinces. At the time of writing (September, 1947) there is still no substantive Senior Medical Officer on the staff, and it has not yet been possible to post a second Medical Officer to Lilongwe; so that the Medical Officer, Lilongwe, is still endeavouring to accomplish the impossible task both of attending to the medical needs of the European population of Lilongwe and of acting as Provincial Medical Officer to two Provinces.

4. Although three new appointments were made during the year, the establishment of Medical Officers was at no time complete. Dr. J. O. Shircore, C.M.G., who is a one-time Director of Medical Services of the East African Group, and one German refugee doctor continued in their employment as temporary Medical Officers, and their services during this difficult period are gratefully acknowledged.

5. The newly-established post of Dental Officer was filled in March. The officer in question divides his time between the European and the African populations, and his presence fills a real need. Details of his work will be found in paragraph 36 of this Report.

6. A qualified Pharmacist arrived in September to take charge of the Medical Store. His presence has relieved the headquarter office of a great deal of technical and routine work, and adds greatly to the efficiency of the Department.

7. Miss M. E. S. Cumming, Senior Nursing Sister, went on leave pending retirement in September, after 20 years service in the Protectorate. It was with great regret that the news of her death in April, 1947, was subsequently received.

8. Short visits to the Protectorate were paid by Professor P. A. Buxton, C.M.G., of the London School of Hygiene and Tropical Medicine, travelling on behalf of the Tsetse Fly and Trypanosomiasis Committee of the Colonial Office; and by Professor B. A. McSwiney, who came to East and Central Africa to advise on Medical Education and Research. Professor McSwiney's death shortly after his return to the United Kingdom is deeply to be deplored.

B. Ordinances, etc. enacted during 1946 affecting Public Health

9. (1) Ordinance No. 28. Medical Practitioners and Dentists Registration Ordinance. The chief effects of the Ordinance were:—

(i) The abolition of the Medical Council, and the appointment of the Director of Medical Services as Registrar.

(ii) The abolition of the registration of African Hospital Assistants in a Medical Sub-Register.

(iii) Provision for the establishment of Boards of Enquiry for the purpose of investigating allegations of infamous conduct in a professional respect, and for the assistance of such Boards by a legal practitioner appointed by the Attorney General.

(2) Ordinance No. 32. Hotels Ordinance. The Ordinance establishes a Hotels Board, whose principal functions are to exercise general supervision over the hotels in Protectorate, to license satisfactory ones and to cancel the licences of those which are unsatisfactory.

(3) Ordinance No. 38. Midwives Ordinance. The Ordinance establishes a Midwives Board, of which the Director of Medical Services is Chairman, the principal duties of which are to make rules regulating the course of training and the conduct of examinations, to exercise disciplinary supervision over Midwives, to appoint examiners, and to maintain the Roll of Midwives.

(4) Public Health (Construction of Trading Stores) Rules. The Rules lay down standards to which trading stores, which are not situated in a Township or Sanitary Area, are to be constructed.

C. Financial

10. The total expenditure in 1946 (apart from that chargeable to the Colonial Development and Welfare Vote) was £84,842-16s-11d, an increase of £11,856-15s-6d over 1945. Expenditure in 1946 is 6.6% of the total revenue and 7.5% of the total expenditure of the Protectorate for the year.

11. Details of expenditure are as follows :—

	£	s	d
Personal Emoluments	...	...	51,628 4 8
Other Charges	...	...	32,501 12 11
Special Expenditure	...	...	712 19 4
	<hr/>	<hr/>	<hr/>
	£84,842	16	11
	<hr/>	<hr/>	<hr/>

12. In addition, an expenditure of £6,269-18s-2d was incurred on the Venereal Diseases Campaign (Scheme No. D. 505 under the Colonial Development and Welfare Act). Under "Extraordinary War Services," the sum of £291-13s-9d was expended on the importation of medical supplies for non-Government concerns, being liabilities from previous years carried over.

13. The total revenue of the Department was £5,631-4s-8d as against £7,158-12s-3d in 1945. This amount was collected under the following heads :—

	1945	1946
Hospital fees	...	3,667 13 3
Sale of Stores	...	1,703 2 5
Pathological fees	...	31 11 0
Radiological fees	...	118 13 0
Dental fees	...	72 10 8
Ambulance fees	...	6 5 4
Yellow Fever Inoculation fees	—	32 9 0
	<hr/>	<hr/>
	£7,158 12 3	£5,631 4 8
	<hr/>	<hr/>

14. Restrictions on the sale of quinine to the public were continued. Sales of quinine and mepacrine at Post Offices amounted to £636-1s-4d and £806-4s-6d respectively, compared with £505-14s-4d and £733-7s-10d in 1945.

D. General

15. *Medical Store.* Supplies of drugs and dressings were on the whole adequate ; shortages of some items did however occur, and were made more acute by difficulties of transport. All sera and vaccines, with the exception of smallpox vaccine which was prepared by the Pathologist, were obtained from South Africa. The presence of a qualified pharmacist, whose arrival towards the end of the year has been mentioned above, made possible the institution on a small scale of the local preparation of certain compounds. Such work cannot be carried out on a large scale in the present cramped and over-crowded store.

16. *Buildings.* (a) Zomba. A steam laundry at the African Hospital, and a dental clinic near the European Hospital were in process of erection.

(b) Blantyre. A new kitchen was provided at the Sisters' Quarters ; and an extra water closet was installed at the Annexe to the European Hospital.

(c) Lilongwe. The European Hospital was enlarged by the conversion of the Sisters' Quarters into a Maternity Section, and well-planned new Quarters were built for the Sisters. A new electric lighting plant was in process of installation towards the end of the year.

SECTION II. PUBLIC HEALTH

A. Communicable Diseases

17. *Smallpox.* (i) This disease, which in 1945 produced 202 cases with 2 deaths, became more prevalent in 1946, and in some districts assumed epidemic proportions. Most of the cases were of a mild type (813 cases with 7 deaths), but in two districts the disease appeared in a more virulent form : thus in Karonga there were 86 cases with 20 deaths (case mortality 23%), and in Fort Johnston 69 cases with 9 deaths (13%). The Fort Johnston outbreak was regarded as an overflow from an epidemic in Portuguese East Africa, and it was thought that the outbreak in Karonga may have been derived from Tanganyika Territory. In all there were 968 cases of variola with 36 deaths, giving an over-all case mortality of 3.7%.

(ii) An intensive vaccination campaign was carried on throughout the country. A total of 402,650 persons were reported to have been vaccinated, of whom 219,256 gave a primary (vaccinal), 32,172 an accelerated (vaccinoid) and 25,012 an immediate (immune) reaction. If "immediate" reactions and cases not seen again are excluded, there remains a balance of 251,428 persons immunized against smallpox. That this was insufficient to control the spread of the disease is shown by the fact that in 1947 the incidence has again increased.

(iii) The following table gives details by districts of vaccinations reported to have been performed :—

Medical District	Primary	VACCINATIONS : REACTIONS				SMALLPOX	
		Vaccinoid	Immune	Not seen	Total	Cases	Deaths
Blantyre	... 5,543	1	1,110	624	7,278	—	—
Chikwawa	... 3,395	1,518	1,409	1,054	7,376	—	—
Chinteché	... 2,099	478	1,905	3,204	7,686	3	—
Chiradzulu	... 7,639	501	401	324	8,865	—	—
Cholo	... 8,931	3,159	2,050	4,347	18,487	—	—
Dedza	... 4,048	256	389	14,534	19,227	7	—
Dowa	... 11,083	782	1,412	1,798	15,075	—	—
Fort Johnston	... 2,777	—	1,322	24,134	28,233	69	9
Fort Manning	... 7,607	1,216	711	—	9,534	20	—
Karonga	... 2,800	1,004	1,814	31,785	37,403	86	20
Kasungu	... 2,644	—	806	20,098	23,548	112	—
Kota-Kota	... 17,256	4,627	1,896	1,773	25,552	135	1
Lilongwe	... 6,150	2,459	2,086	1,314	12,009	110	—
Liwonde	... 7,516	—	1,535	8,399	17,450	23	3
Mlanje	... 5,277	3,287	716	3,324	12,604	4	—
Mzimba	... 105,320	8,001	2,003	—	115,324	397	2
Nchewi	... 11,767	2,242	1,533	621	16,163	—	—
Port Herald	... 4,669	1,447	1,373	8,790	16,279	—	—
Zomba	... 2,735	1,194	541	87	4,557	2	1
TOTALS ...	219,256	32,172	25,012	126,210	402,650	968	36

18. *Chickenpox.* In view of the prevalence of Smallpox, it is of interest to note that Chickenpox was reported from nearly every district in the Protectorate. A total of 827 cases were seen, of which nearly half occurred in two districts (Chinteché and Dowa).

19. *Measles* was even more prevalent (852 cases with 21 deaths). Only two districts (Chikwawa and Mlanje) escaped. The principal cause of blindness in Africans was therefore active and widespread.

20. *Malaria* and malarial cachexia were again common, producing 471 cases amongst Europeans with 3 deaths and 16,928 cases amongst Non-Europeans with 48 deaths. The Non-European figure takes no account of patients suffering from other conditions, whose blood, on routine examination, was found to be positive for malaria. One fatal case of Blackwater Fever occurred in a European, and one non-fatal case in a non-European.

21. *Trypanosomiasis.* Nine cases, of which seven were at Kota-Kota, were reported. One death occurred.

22. *Relapsing Fever.* The disease continues to be common throughout the country, and 323 cases (354 in 1945) were reported. 218 of these were admitted to hospital, and 3 died.

23. *Tuberculosis.* 5 cases of Pulmonary Tuberculosis occurred amongst the European population, and 211 cases of pulmonary and 114 of non-pulmonary tuberculosis were reported in non-Europeans. The total figure for the non-European population (335) is almost identical with the figures for 1944 and 1945, which were 333 and 332 respectively. There were 20 deaths from pulmonary and 7 deaths for non-pulmonary tuberculosis.

24. *Leprosy.* (i) There are seven Leprosy Settlements in Nyasaland, all under the control of Missions. Three of the Settlements (Malamulo, Seventh Day Adventists; Utale and Mua, (White Fathers) are of considerable size ; the remainder (Likwenu, U.M.C.A.; Bandawe and Loudon, Church of Scotland ; Mwami, Seventh Day Adventists) are smaller. The work done at each Settlement is shown in the following table. In addition, 235 cases were under treatment at Government Hospitals, and 278 attended Rural Dispensaries. The value of the treatment given at Dispensaries is questionable.

	In Settlement beginning of 1946	Admitted or re-admitted during 1946	Discharged or paroled during 1946	Absconded during 1946	Died during 1946	In Settlement end of 1946	Daily Average in Settlement	Out-Patients
Bandawe (Church of Scotland) ...	59	18	1	1	6	69	66	—
Likwenu (Universities Mission to Central Africa) ...	82	10	18	18	4	52	67	78
Loudon (Church of Scotland) ...	19	12	4	3	—	24	23	—
Malamulo (Seventh Day Adventists)	234	39	14	78	4	177	202	117
Mua (White Fathers) ...	197	104	57	42	10	192	178	52
Mwami (Seventh Day Adventists)	39	18	10	8	—	39	33	—
Utale (White Fathers) ...	184	90	1	9	2	262	197	2
Total ...	814	291	105	159	26	815	766	249

(ii) An average of 766 cases of leprosy were accordingly accommodated as in-patients at Settlements, 249 cases received treatment as out-patients, 235 were treated at Government Hospitals and 278 cases at Rural Dispensaries ; a total of 1,528 cases receiving some sort of treatment. When Dr. Muir, the then Medical Secretary of the British Empire Leprosy Relief Association, visited the Protectorate

in 1939, he reached the conclusions that leprosy is a common disease in Nyasaland, and that probably only a small fraction of the total number of persons suffering from the disease are at present in leprosy institutions. The amount of work which remains to be done is obviously large. The establishment under the control of the Department of a new Leprosy Settlement at Salima, which it is hoped will be begun in 1948, will make a start in coping with deficiencies ; but even if large numbers of cases can be treated as out-patients, many more will remain untouched. The principal factors which make the position difficult to cope with are three in number :—

(a) As remarked upon by Dr. Muir, and obvious on visiting Settlements, the majority of cases in Nyasaland are lepromatous in type, and there is a high proportion of nodulars : such cases, being infective, are unsuitable for treatment as out-patients ;

(b) There is a tendency for Settlements to fill up with crippled and tuberculoid cases in whom the disease may or may not be present in active form, to the exclusion of the infective lepromatous cases ;

(c) Accordingly, however much the Settlements expand, unless those in control deny admission to non-infective cases and require active tuberculoids to be treated as out-patients (a policy both difficult to enforce and likely to be a strain on the humane principles of Settlement authorities) they will never have sufficient room for all lepromatous cases, who will remain outside to infect their fellows with the disease.

(iii) The seven Settlements amongst them received from Government funds in appropriate proportions a total of £1,500, a sum which works out about $1\frac{1}{3}$ d per day per resident patient. In addition, standard drugs and dressings used in the treatment of leprosy and common complicating conditions were provided free of charge. For Settlements which have advanced to the stage at which resident patients by their own efforts grow enough food to make the Settlement almost self-supporting, the subsidy was probably sufficient to cover the balance of expenditure required ; but most Settlements find it difficult or impossible to induce their residents to do this amount of work, and for these the grant was inadequate.

25. *Venereal Diseases.* (i) Drugs used in the treatment of venereal diseases are issued without charge to non-Government medical organizations, and Africans are encouraged to seek treatment at either Government or non-Government hospitals and dispensaries. As a result, the number of cases treated at Government hospitals and at rural dispensaries in charge of a Hospital Assistant rose from the 1945 figure of 5,681 to 10,011, and a further 639 cases were treated at Mission hospitals and dispensaries.

(ii) The distribution according to disease is as follows :—

	<i>Syphilis</i>	<i>Gonorrhoea</i>	<i>Other venereal diseases</i>	<i>Total</i>
Government hospitals and dispensaries ...	7,963	2,009	39	10,011
Mission hospitals and dispensaries ...	592	47	—	639
Totals	8,555	2,056	39	10,650

(iii) The expenditure of £6,269-18s-2d which was incurred on the purchase of drugs for the intensified drive against venereal disease was a charge against the Colonial Development and Welfare Vote.

26. *Yellow Fever.* (i) During 1945 and 1946 blood samples taken from a total of 385 persons were sent to the Yellow Fever Research Institute, Entebbe, for testing. 15 of them were found to be positive, two of the positives being in children under 15 years of age. Positive bloods in adults who have lived their whole lives in an area and have not been inoculated against the disease indicate the presence of yellow fever in the area within a life-time, and in children indicate its presence within the last 15 years.

(ii) Despite the fact that Nyasaland is well outside the boundaries of the yellow fever endemic area, evidence has thus been provided that the disease has occurred here (presumably in an obscure form) within quite recent years. This being so, there is no reason why it should not occur again. More than one medical conference has confirmed the view that the important measures of control to prevent an outbreak of the disease in a threatened area are the control of the mosquito vector, the inoculation of the population against the disease, and quarantine measures. The first and the last of these are being carried out so far as circumstances permit ; the second is impossible to carry out completely in the indigenous population, but there is no reason why every European in the country should not be protected.

(iii) Protective inoculation against yellow fever was administered to 337 persons.

27. *Helminthic Diseases.* Ancylostomiasis (Hookworm) and Schistosomiasis (bilharzia) were again common. 6,158 cases of the former and 5,079 of the latter were reported. These figures do not represent the total number of patients who were actually found to be suffering from the disease and who accordingly received treatment for it, but only those in whom it was the principal cause of complaint. Every patient admitted to hospital goes through a routine series of investigations, in the course of which hookworm, bilharzia, round-worm, malaria and a dozen other conditions may be found. A patient who comes for treatment with for example an ulcer on his leg may be suffering also from malaria, bilharzia and hookworm ; but only the principal condition for which he is being treated will appear on the return. The true incidence of these diseases is almost impossible to assess.

B. General Diseases

28. Diseases of the skin and cellular tissues, of which ulcers form an overwhelming proportion, provided the greatest number of cases of any one condition treated at African hospitals (51,215, 22% of all cases treated at hospitals).

29. Apart from injuries, the next most common affections were those of the respiratory system, most of them of a minor character, but including 837 cases of pneumonia with 58 deaths. It is interesting to compare this death-rate (6.9%) with typical death-rates before the days of the sulphanilamide group of drugs. Thus in 1937 there were 114 cases of pneumonia with 18 deaths (15.8%), in 1936, 95 cases with 18 deaths (18.9%), and in 1935 185 cases with 18 deaths (20.6%). The difference which these drugs have made in the treatment of pneumonia is obvious.

C. Hospital and Dispensaries

30. Government maintained two European Hospitals, at Zomba and Blantyre respectively, and a smaller hospital of "cottage" type at Lilongwe. Owing to shortage of European staff, it was not possible to accept maternity cases at the last-named institution. A total of 2,652 cases, of whom 578 were admitted as in-patients, received treatment at these hospitals. The number of cases treated is 75% more than the number treated in 1939, and the number of admissions has increased by 90%.

31. There are in the Protectorate 19 African Hospitals, of which seven were in the charge of a Medical Officer, five of a Sub-Assistant Surgeon, and seven of a Hospital Assistant. Among them, hospitals dealt with 232,582 new cases, of whom 24,220 were admitted as in-patients. The number of new cases seen shows an increase of 71% over the 1939 figure.

32. 96 Rural Dispensaries were maintained, and treated 531,636 cases: an increase of 22,991 over the 1945 figure and of 35% over that for 1939. The degree of accuracy in diagnosis which is reached by the African staff in charge of dispensaries is not high, and no attempt has been made to classify these cases according to disease. In spite of low diagnostic accuracy, the work done is well worth while, as the increasing demand for new dispensaries (which unfortunately cannot as yet be acceded to) shows.

33. From the previous two paragraphs, it appears that a total of 764,218 Africans received treatment at Government hospitals or dispensaries during the year. It is not possible to estimate how many cases were the result of the same African coming up on more than one occasion with different complaints, but even if this is ignored it appears that not more than about 37% of the African population took advantage of the medical facilities provided. Figures are not available for Africans attending hospitals and dispensaries on Missions and Estates, but the number is unlikely to affect this percentage materially. It is clear that no more than a beginning has been made in inducing the African population to take advantage of the medical facilities provided.

D. Special Services

34. In addition to doing much surgical work amongst the European population, principally at the Zomba and Blantyre European Hospitals, the Surgical Specialist (Mr. M. A. W. Roberts) carried out at the Zomba African Hospital 222 major operations and 689 operations of a minor nature. Of these 911 operations, 704 required general anaesthesia, and in 279 cases this was administered by the spinal route. The Surgical Specialist in his report comments on the popularity of spinal anaesthesia with the African, his dislike of operation being apparently largely due to fear of inhalation anaesthesia. Another real advantage of the spinal method is that, being carried out by the surgeon himself, it obviates the risk attached to inhalation anaesthesia administered by semi-skilled Africans.

35. Work in the Pathological Laboratory was handicapped by the departure in May of the Pathologist (Dr. D. A. Skan) on transfer to Tanganyika Territory, and the non-arrival of his relief (Dr. W. J. Shannon) until November. In the interval, two different Medical Officers took charge for a short period each. In spite of this, a considerable volume of useful work was carried out.

36. A newly-appointed Dental Officer (Mr. S. F. Fawcett) arrived in March. Neither surgery accommodation nor equipment were at first available, and his first efforts were directed to remedying this. Two rooms at the Zomba European Hospital were allocated to him, and pending the arrival of equipment and stores from the Crown Agents a limited quantity of the most essential items was obtained locally and in Southern Rhodesia. Dental services for Europeans, Asians and Africans were fully available by the middle of July, and the total numbers of cases subsequently dealt with in each racial group were 1,753, 191 and 4,405 respectively. In addition, courses of instruction were given to trainees at the African Medical Training School.

E. Maternity and Child Welfare

37. For many years medical missions of all denominations in Nyasaland have specialized in this work, which is both facilitated by and facilitates close contact with the native population. Financial assistance is given by Government to each Centre which is under the control of a nursing sister and where a medical practitioner is continuously available. The following table shows the work done at recognized centres from which returns have been received:—

			<i>Antenatal clinic (new cases)</i>		<i>Infant Welfare clinic (new cases)</i>		<i>Confinements</i>
CHURCH OF SCOTLAND							
Blantyre	...	...	1,424	...	906	...	1,254
Livingstonia	...	...	67	...	198	...	67
Ekwendeni	...	...	52	...	192	...	52
DUTCH REFORMED CHURCH	...	...			
Mkhoma	...	...	224	...	113	...	336
Malingunde	...	...	388	...	104	...	329
Mlanda	...	...	480	...	183	...	215
Mvera	...	...	275	...	79	...	246
WHITE FATHERS							
Likuni	...	...	819	...	971	...	525
Mua	...	...	481	...	—	...	337
SEVENTH DAY ADVENTISTS							
Malamulo	...	...	359	...	282	...	335
GOVERNMENT							
Various Stations	...	...	1,122	...	908	...	921
TOTAL	...	...	5,691	...	3,936	...	4,617

F. Training of African Personnel

38. The Government Medical Training School at Zomba continued to function actively. Four separate courses of instruction ran concurrently, respectively for Hospital Assistants, Dressers, Midwives and Nurses.

39. Hospital Assistants. (i) At the beginning of the year five men were in training. Two fell out during the year, and the remaining three continued with their training.

(ii) Two men were enrolled in the Medical Sub-Register during the year : one of them completed his training during 1945, and the other was trained partly at the Blantyre Mission Hospital and partly at the Government Medical Training School.

(iii) The registration of Hospital Assistants was brought to an end in December by the enactment of the Medical Practitioners and Dentists Registration Ordinance (see paragraph 9 of this Report).

40. Dressers. 25 men were in training at the beginning of the year ; of these, 10 completed their training and passed the final examination in September. In October, 15 men were enrolled at the commencement of a new two-years course, so that at the end of the year 30 men were under training.

41. *Midwives.* (i) The training of Midwives is carried on not only at the Government Medical Training School but at several Mission Training Centres throughout the country. The following newly-qualified Midwives were registered during the year :—

Government Training School	...	...	...	2
Blantyre Mission Training School (Church of Scotland)	...	...	...	5
Mkhoma Mission Training School (Dutch Reformed Church)	...	...	...	3
Malamulo Mission Training School (Seventh Day Adventists)	...	...	...	4
Kota-Kota Mission Training School (Universities Mission to Central Africa)	...	...	...	2
				—
				16

(ii) The Medical Council, whose examinations gave entry to the Register of Midwives, was abolished in December (see paragraph 9 of this Report), and a Midwives' Board was established.

42. *Nurses.* Five trainees at the Medical Training School successfully passed the October examination, and four of them went on to take the Midwives Course.

43. *Sanitary Assistants.* Twelve men were under training at the beginning of the year, of whom five successfully completed the course. Lectures in the elements of hygiene and sanitation were given to chiefs and headmen undergoing instruction at the Jeanes Training Centre.

G. Migrant Labour

44. It is estimated that at the end of the year 81,000 Nyasaland natives were resident in Southern Rhodesia and 35,000 in South Africa. Sick or destitute repatriates examined at Blantyre numbered 404 ; the principal affections from which they were suffering were as follows :—

Old age and debility	...	...	...	21
Disorders of the Eyes	...	...	...	19
Mental Disorders	...	...	...	17
Disorders of the Central Nervous System	...	...	...	11
Pulmonary Tuberculosis	...	...	...	10
Epilepsy	...	...	...	8
Leprosy	...	...	...	7

In addition there were 228 destitutes, of whom 51 were women and 129 children.

SECTION III. VITAL STATISTICS

45. The following tables show the sick, invaliding and death rates for European and African officials during 1946. The corresponding 1945 figures are given for European officials for comparison, but unfortunately are not available for African officials.

A. European Officials

		1945	1946
Total number resident	...	253	306
Average number resident	...	197.1	215.4
Total number on sick list	...	100	99
Total number of days on sick list	...	1,421	1,371
Average daily number on sick list	...	3.76	3.89
Percentage of sick to average number resident	...	1.23	1.97
Average number of days on sick list for each patient	...	14.2	13.85
Average sick time (days) to each resident	...	7.21	6.36
Total number invalidated	...	Nil	Nil
Percentage of invalidings to total number resident	...	Nil	Nil
Total deaths	...	Nil	2*
Percentage of deaths to total number resident	...	Nil	0.66
Percentage of deaths to average number resident	...	Nil	0.92

* Cause of death (i) Enteric fever.

(ii) Fractured skull due to accident.

B. African Officials

				1946
Total number resident	...	...	...	3,897
Average number resident	...	...	...	Not available
Total number on sick list	...	...	...	832
Total number of days on sick list	...	...	...	5,208
Average daily number on sick list	...	...	...	14.27
Percentage of sick to total number resident	...	...	...	0.37
Average number of days on sick list for each patient	...	...	...	6.26
Average sick time (days) to each resident	...	...	...	1.34
Total number invalidated	...	...	...	Nil
Percentage of invalidings to total number resident	...	...	...	Nil
Total deaths	...	...	...	5*
Percentage of deaths to total number resident	...	...	...	0.13

- * Causes of death (i) Internal haemorrhage from gastric ulcer.
(ii) Meningitis.
(iii) Endocarditis and malaria.
(iv) Liver atrophy.
(v) Fractured skull due to accident.

SECTION IV. HYGIENE AND SANITATION

A. Townships

46. The sanitary condition of the three townships, Zomba, Blantyre and Limbe, leaves much to be desired. In Zomba, though ample water is available, the majority of European houses are unprovided with bathing facilities for African staff, nor are such facilities available for most other Africans resident in the township. A water-carriage system of conservancy is in use, but no European house has a latrine for its African staff, who are required to use the nearest public latrine; it is not to be expected that after nightfall they will go beyond the nearest bush. The fly population is only kept down by frequent inspections and active measures of control.

47. The outstanding event of the year in Zomba was the disastrous flood which occurred during December. The entire system of anti-malarial drainage, which had cost many thousands of pounds and had taken nearly twenty years to construct, was destroyed within 36 hours. The conservancy system was disrupted, and an emergency service was organized to replace it. The township incinerator was completely washed away.

48. In Blantyre and Limbe a bucket system of conservancy is carried on side by side with a water-carriage system. A single Government Health Inspector combines the duties of the two townships—a procedure which is satisfactory to no one.

B. Other Areas

49. *Lilongwe.* Schemes were under consideration for improving the inadequate and contaminated water supply, but up to the end of the year little progress had been made. One latrine of Gambia type for public use, and several others of the same type on Government property, were installed. A Health Inspector was posted to Lilongwe in November, and it is hoped that it will prove possible to maintain one there permanently.

50. *Kota-Kota.* Good progress was made with the Bilharzia Eradication Scheme, which is financed by grants from the Native Development and Welfare Fund. Propaganda was carried on by talks to children and adults and by the issue of a pamphlet in Chinyanja. A survey of the incidence of the disease in the area involved was made; in the neighbourhood of the three streams to which attention is being mainly directed it was found to vary between 57 and 100 per cent of the population. In order to eliminate pools which harbour the snail vector of the disease canalization of the streams by means of the construction of stone and cement drains was instituted. By the end of the year 2,000 yards had been completed.

51. *Karonga.* A wide-spread flood occurred at the end of December, and further erosion of the banks and head of the Fwira stream occurred. Should backward erosion continue until connection with the Rukuru River is made, serious results to Karonga are likely to follow. Emergency measures to ensure the safety of the inhabited area of Karonga have been taken.

SECTION V. PRISON AND LUNATIC ASYLUM

52. The daily average of prisoners in the Central Prison was 468.1, as compared with 540.5 in 1945. 96 prisoners were admitted to hospital, with four deaths (respectively from bacillary dysentery, pulmonary tuberculosis, pernicious anaemia and lobar pneumonia). Monthly weighing showed a gain in weight in 21.1% of prisoners, a loss in 20.4% and no appreciable change in the remainder.

53. The Central Lunatic Asylum accommodated a daily average of 143.3 certified lunatics, as compared with 124.6 in 1945. The increase in number completely filled existing accommodation. 32 persons were admitted to the Asylum and 11 discharged; 22 inmates were admitted to hospital, with two deaths (both from valvular disease of the heart). 27% of the inmates gained weight, 30% lost weight, and there was no appreciable change in the remainder.

54. Conditions in the Annexe, where quiet and convalescent patients are housed without restraint or confinement, are good, but the older part of the Asylum leaves much to be desired. Provision has been made in the Development Programme for alteration, extension and improvement of the Asylum in order to convert it into a Mental Hospital. Control of the organization will then be handed over to the Medical Department.

P. S. BELL
Director of Medical Services

Table Ia.—Zomba, Blantyre and Lilongwe European Hospitals
Return of Diseases and Deaths (European in-patients) for the year 1946

Diseases	Remaining at the end of 1945	Admissions during 1946			Total cases Treated	Deaths	Remaining at the end of 1946
		Blantyre	Lilongwe	Zomba			
1-44. <i>Infectious and parasitic diseases :</i>							
1. Typhoid fever	1	1	1	1	4	1	—
7. Measles	—	1	—	—	1	—	—
9. Whooping cough	—	1	—	—	1	—	—
11. Influenza	—	1	—	2	3	—	—
13. Dysentery							
(a) Amoebic	2	2	4	6	14	—	—
(b) Bacillary	—	9	—	1	10	—	—
23. Tuberculosis of the respiratory system ...	1	—	—	—	1	—	—
35. Venereal Diseases including gonorrhoea	—	—	1	1	2	—	—
38. Malaria :—							
(d) Unclassified	3	69	28	55	155	3	1
40. Ankylostomiasis	—	—	—	2	2	—	—
42. Other helminthic diseases including Schistosomiasis	—	—	1	1	2	—	—
44. Other infectious and/or parasitic diseases	—	1	—	1	2	—	—
45-55. <i>Cancer and other tumours :</i>							
45. Malignant	—	2	1	—	3	—	—
54. Non-malignant	—	2	—	4	6	—	—
55. Undetermined	—	1	—	—	1	—	1
56-66. <i>Rheumatism, diseases of nutrition and endocrine glands and other general diseases :</i>							
56. Rheumatic conditions	—	1	1	1	3	—	—
59. Diabetes	—	2	—	1	3	—	—
65-68. Endocrine glands general ...	—	5	—	1	6	—	1
70-74. <i>Diseases of the blood and blood-forming organs.</i>							
70-74. Diseases of the blood and blood-forming organs	—	8	—	—	8	—	—
75-77. <i>Chronic poisoning.</i>							
75-77. Acute and chronic poisoning ...	—	2	2	—	4	—	—
78-89. <i>Diseases of the nervous system and sense organs.</i>							
87. Other diseases of the nervous system ...	1	3	—	4	8	—	—
88. Other diseases of the eye and annexa ...	—	1	1	2	4	—	—
89. Diseases of the ear and mastoid sinus ...	—	3	—	1	4	—	—
90-103. <i>Diseases of the circulatory system.</i>							
90-95. Heart diseases	—	9	2	1	12	2	—
103. Other circulatory diseases	—	4	—	8	12	—	—
104-114. <i>Diseases of the respiratory system.</i>							
106. Bronchitis	—	7	5	3	15	—	—
107-109. Pneumonia							
107. Broncho-pneumonia...	—	2	—	—	2	—	—
108. Lobar pneumonia	1	4	—	1	6	—	—
109. Otherwise defined	—	1	—	—	1	—	—
114. Other diseases of the respiratory system	—	1	3	3	7	1	—
115-129. <i>Diseases of the digestive system.</i>							
119-120. Diarrhoea and enteritis							
(a) Under 2 years of age... ...	—	—	2	—	2	—	—
(b) Over 2 years of age ...	—	5	2	10	17	—	—
121. Appendicitis	—	4	1	3	8	—	—
122. Hernia, intestinal obstruction ...	—	2	—	3	5	1	—
123. Other diseases of the digestive system	1	32	5	37	75	1	—
124. Cirrhosis of the liver	—	1	—	—	1	—	—
125. Other diseases of the liver and biliary passage	—	6	2	3	11	2	1
130-139. <i>Non-venereal diseases of the genito-urinary system.</i>							
130-132. Nephritis all forms							
130. Acute	—	2	1	—	3	—	—
133-139. Other non-venereal diseases of the genito-urinary system	1	3	1	7	12	—	—
140-150. <i>Diseases of pregnancy child-birth and the puerperal state.</i>							
141. Abortion	1	2	1	2	6	—	—
Carried forward	12	200	65	165	442	11	4

Table Ia.—Zomba, Blantyre and Lilongwe European Hospitals
Return of Diseases and Deaths (European in-patients) for the year 1946.—*cont'd.*

Diseases	Remain-ing at the end of 1945	Admissions during 1946			Total cases Treat- ed	Deaths	Remain- ing at the end of 1946
		Blan- tyre	Lilon- gwe	Zomba			
<i>Brought forward</i>	12	200	65	165	442	11	4
147. Toxaemias of pregnancy	—	1	—	—	1	—	1
150. Other conditions of the puerperal state	—	28	1	5	34	—	4
151–153. <i>Diseases of the skin and cellular tissues.</i>							
154–156. <i>Diseases of the bones and organs of locomotion.</i>							
Diseases of the skin, cellular tissue, bones and organs of locomotion ...	1	14	6	20	41	—	—
157. <i>Congenital malformations.</i>							
158–161. <i>Diseases of early infancy.</i>							
158. Congenital debility (children under one year)	—	1	—	—	1	—	—
163–198. <i>Affection caused by external causes.</i>							
194. Other forms of violence	—	21	1	10	32	—	—
199–200. <i>Ill-defined diseases.</i>	1	3	6	17	27	—	—
TOTALS ...	14	268	79	217	578	11	9

Table Ib. Return of Diseases and Deaths (Native In-Patients) for the year 1946 (including Asiatics, Native Officials, K.A.R. Native Ranks, Native General Population, Asiatic and Native Convicts)

Diseases	Remaining at the end of 1945	Admissions during 1946	Total cases treated	Deaths	Remaining at the end of 1946
1-44. Infectious and Parasitic Diseases					
1-2. Enteric Group :—					
1. Typhoid Fever	3	18	21
2. Paratyphoid Fever	1	—	1
4. Relapsing Fever	3	215	218
6. Smallpox	—	25	25
7. Measles	2	134	136
8. Scarlet Fever	—	1	1
9. Whooping Cough	7	81	88
10. Diphtheria	—	7	7
11. Influenza	—	24	24
13. Dysentery :—					
(a) Amoebic	4	104	108
(b) Bacillary	2	15	17
(c) Unclassified	1	26	27
16. Acute Poliomyelitis	—	2	2
18. Cerebro-spinal Fever	—	18	18
21. Rabies	—	1	1
22. Tetanus	—	7	7
23-32. Tuberculosis all forms					
23. Tuberculosis of the Respiratory System	...	17	192	209	20
24-32. Other tuberculous disease	...	2	78	80	7
33. Leprosy	6	62	68
34. Syphilis	134	2,210	2,344
35. Other Venereal diseases including Gonorrhoea	...	17	838	855	2
38. Malaria :—					
(a) Benign Tertian	5	253	258
(b) Sub-tertian	17	1,039	1,056
(c) Quartan	1	65	66
(d) Unclassified	37	1,367	1,404
39. Blackwater Fever	...	—	—	1	1
Trypanosomiasis	1	8	9
Yaws	5	271	276
40. Ancylostomiasis...	70	1,701	1,771
42. Other helminthic diseases including Schistosomiasis	41	1,034	1,075
44. Other infectious and/or parasitic diseases	...	3	132	135	1
45-55. Cancer and other Tumours.					
45-53. Malignant	1	63	64
54. Non-malignant	5	119	124
55. Undetermined	...	—	—	4	4
56-69. Rheumatism, Diseases of Nutrition and Endocrine Glands, and other general diseases.					
56. Rheumatic conditions	3	251	254
59. Diabetes	—	2	2
60. Scurvy	—	2	2
61. Beri-beri	—	6	6
62. Pellagra	5	26	31
63-69. Other diseases :—					
(a) Nutritional	—	1	1
(b) Endocrine glands and general	...	—	—	18	18
70-74. Diseases of the Blood and Blood-forming organs	...	2	55	57	7
75-77. Chronic Poisoning	...	—	—	8	8
78-89. Diseases of the Nervous System and Sense Organs.					
82. Cerebral haemorrhage	6	61	67
87. Other diseases of the nervous system	...	9	136	145	4
88. (a) Trachoma	3	14	17
(b) Other diseases of the eye and annexa	...	26	639	665	—
89. Diseases of the ear and mastoid sinus	...	7	120	127	—
90-103. Diseases of the Circulatory System.					
90-95. Heart Diseases	...	5	82	87	10
103. Other circulatory diseases	...	5	118	123	2
104-114. Diseases of the Respiratory System					
106. Bronchitis	...	15	597	612	6
Carried forward	...	471	12,251	12,722	175
					393

Table Ib. Return of Diseases and Deaths (Native In-Patients) for the year 1946 (including Asiatics, Native Officials, K.A.R. Native Ranks, Native General Population, Asiatic and Native Convicts).—cont'd.

	Diseases		Remaining at the end of 1945	Admissions during 1946	Total cases treated	Deaths	Remaining at the end of 1946
107-109.	Pneumonia :—	Brought forward	... 471	12,251	12,722	175	393
107.	Broncho-pneumonia	...	... 4	252	256	19	8
108.	Lobar pneumonia	...	... 4	564	568	36	11
109.	Pneumonia otherwise defined	...	... 1	12	13	3	—
114.	Other diseases of respiratory system	...	... 8	185	193	2	6
115-129.	<i>Diseases of the Digestive System.</i>						
119-120.	Diarrhoea and enteritis	...					
	(a) Under two years of age	...	6	48	54	2	5
	(b) Over two years of age	...	3	85	88	2	3
121.	Appendicitis	...	... 1	15	16	—	—
122.	Hernia, Intestinal Obstruction	...	... 6	160	166	6	6
123.	Other diseases of the digestive system	...	... 9	457	466	11	7
124.	Cirrhosis of the liver	...	... —	14	14	3	—
125.	Other diseases of the liver and biliary passage	... . . . .	2	62	64	12	2
130-139.	<i>Non-Venereal Diseases of the Genito-urinary system.</i>						
130-132.	Nephritis (all forms)	...					
130.	Acute	...	—	12	12	3	—
131.	Chronic	...	—	24	24	7	1
133-139.	Other non-venereal diseases of the genito-urinary system	...	... 19	567	586	7	25
140-150.	<i>Diseases of Pregnancy, Child-birth and the Puerperal State.</i>						
141.	Abortion	...	... 1	77	78	—	1
142.	Ectopic gestation	...	—	1	1	—	—
147.	Toxaemias of pregnancy	...	—	26	26	7	1
150.	Other conditions of the puerperal state	...	... 14	802	816	20	20
151-153.	<i>Diseases of the Skin and Cellular Tissues.</i>						
154-156.	<i>Diseases of the Bones and Organs of Locomotion</i>						
	Diseases of the skin, cellular tissues, bones and organs of locomotion	...	... 223	4,191	4,414	21	189
157.	<i>Congenital Malformations</i>	...	—	5	5	—	—
158-161.	<i>Diseases of early infancy.</i>						
158.	Congenital debility (children under one year)	...	—	10	10	1	1
159.	Premature birth (children under one year)	...	—	16	16	1	—
162.	<i>Old age.</i>						
	Senility	...	—	10	10	—	1
163-198.	<i>Affection produced by External Causes</i>						
163-171.	Suicide	...	—	1	1	—	—
194.	Other forms of violence	...	... 135	2,540	2,675	60	130
199-200.	Ill-defined Diseases	...	... 41	885	926	18	45
	TOTALS	...	948	23,272	24,220	416	855

Table IIa.—Return of Diseases (European Out Patients) for the Year 1946.

Diseases	Males	Females	Diseases	Males	Females
1-44. <i>Infectious and Parasitic diseases</i>			103. Other circulatory diseases ...	34	42
1. Typhoid Fever ...	3	1	104-114. <i>Diseases of the respiratory system.</i>		
7. Measles ...	—	2	106. Bronchitis ...	26	25
9. Whooping Cough ...	1	2	107-109. Pneumonia :—		
11. Influenza ...	33	18	107. Broncho Pneumonia ...	1	1
13. Dysentery : (a) Amoebic ...	10	9	108. Lobar Pneumonia	8	—
(b) Bacillary ...	8	7	109. Pneumonia otherwise defined —	—	1
23. Tuberculosis of the respiratory system ...	1	4	114. Other diseases of the respiratory system ...	75	42
35. Other Venereal Diseases :— Gonorrhoea ...	1	1	115-129. <i>Diseases of the digestive system.</i>		
38. Malaria :— (a) Benign Tertian ...	6	3	119-120. Diarrhoea and enteritis :— (a) Under two years of age	8	11
(b) Sub-Tertian ...	21	3	(b) Over two years of age	36	50
(c) Quartan ...	1	—	121. Appendicitis ...	9	3
(d) Unclassified ...	205	132	122. Hernia, intestinal obstruction	6	2
40. Ancylostomiasis ...	2	1	123. Other diseases of the digestive system ...	159	117
42. Other helminthic diseases including Schistosomiasis ...	4	5	124. Cirrhosis of the liver ...	1	—
44. Other infectious and/or parasitic diseases ...	3	6	125. Other diseases of the liver and biliary passage ...	6	9
45-55. <i>Cancer and other tumours.</i>			130-139. <i>Non-venereal diseases of the genito-urinary system.</i>		
45. Malignant ...	7	2	130-132. Nephritis all forms.		
54. Non-Malignant ...	13	16	130. Acute nephritis ...	2	1
55. Undetermined ...	1	—	131. Chronic nephritis ...	—	1
56-69. <i>Rheumatism, diseases of nutrition and endocrine glands and other general diseases</i>			133-139. Other non-venereal diseases of the genito-urinary system ...	17	158
56. Rheumatic conditions ...	7	4	140-150. <i>Diseases of pregnancy, childbirth and the puerperal state.</i>		
59. Diabetes ...	3	4	141. Abortion ...	—	8
63-69. Other diseases :— (a) Nutritional ...	—	2	147. Other toxæmias of pregnancy —	—	5
(b) Endocrine glands and general ...	13	16	150. Other conditions of the puerperal state ...	—	36
70-74. <i>Diseases of the blood and blood-forming organs.</i>			151-153. <i>Diseases of the skin and cellular tissues.</i>		
70-74. Diseases of the blood and blood-forming organs ...	49	84	154-156. <i>Diseases of the bones and organs of locomotion.</i>		
75-77. <i>Chronic poisoning.</i>			Diseases of the skin, cellular tissues, bones and organs of locomotion ...	270	185
75-77. Acute and chronic poisoning	3	1	157. <i>Congenital malformations.</i>		
78-89. <i>Diseases of the nervous system and sense organs.</i>			158-161. <i>Diseases of early infancy</i>		
82. Cerebral haemorrhage ...	—	3	158. Congenital debility (children under one year) ...	—	1
87. Other diseases of the nervous system ...	14	16	159. Premature birth ...	1	—
88. (a) Trachoma ...	1	—	163-198. <i>Affection caused by external causes.</i>		
(b) Other diseases of the eye and annexa ...	30	14	194. Other forms of violence ...	138	87
89. Diseases of the ear and mastoid sinus ...	84	52	199-200. <i>Ill-defined diseases.</i>		
90-103. <i>Diseases of the circulatory system.</i>			200. Ill-defined diseases ...	55	52
90-95. Heart Diseases ...	14	15	TOTAL : ...	1,390	1,260

Table IIb. Return of diseases (Native Out-Patients) for the year 1946. (Including Asiatics, Native Officials, K.A.R. Native Ranks, and Native Convicts)

Diseases	Males	Females	Diseases	Males	Females
1-44. Infectious and parasitic diseases			90-103. Diseases of the circulatory system.		
1-2. Enteric Group :—	...		90-95. Heart diseases ... 95	81	
1. Typhoid fever ...	...	14	103. Other circulatory diseases	242	90
2. Paratyphoid fever	...	1			
4. Relapsing fever ...	...	223	104-114. Diseases of the respiratory system.		
5. Undulant fever ...	...	2	106. Bronchitis ... 415	336	
6. Smallpox ...	...	26	107-109. Pneumonia :—		
7. Measles ...	...	171	107. Broncho-pneumonia 156	126	
8. Scarlet fever ...	...	1	108. Lobar pneumonia 460	157	
9. Whooping cough ...	...	156	109. Pneumonia otherwise defined 8	4	
10. Diphtheria ...	...	6			
11. Influenza ...	...	123	114. Other diseases of the respiratory system ... 21,501	11,401	
13. Dysentery :—			115-129. Diseases of the Digestive system.		
(a) Amoebic ...	...	151	119-120. Diarrhoea and enteritis :—		
(b) Bacillary ...	...	15	(a) Under two years of age 811	555	
(c) Undefined ...	...	98	(b) Over two years of age 1,097	601	
16. Acute poliomyelitis ...	...	2	121. Appendicitis ... 55	66	
18. Cerebrospinal fever ...	...	13	122. Hernia, intestinal obstruction ... 231	4	
21. Rabies ...	...	1	123. Other diseases of the digestive system ... 15,100	8,466	
22. Tetanus ...	...	4	124. Cirrhosis of the liver 15	3	
23. Tuberculosis of the respiratory system ...	...	149	125. Other diseases of the liver and biliary passage 71	23	
24-32. Other tuberculosis diseases 86	28		130-139. Non-venereal diseases of the genito-urinary system.		
33. Leprosy ...	...	209	130-132. Nephritis (all forms) :—		
34. Syphilis ...	...	2,648	130. Acute nephritis ... 15	10	
35. Other venereal diseases including gonorrhoea ...	1,319	519	131. Chronic nephritis ... 17	7	
38. Malaria :—			133-139. Other non-venereal diseases of the genito-urinary system 524	490	
(a) Benign tertian ...	...	686	140-150. Diseases of pregnancy, child-birth and the puerperal state.		
(b) Sub-tertian ...	...	2,406	141. Abortion ... —	95	
(c) Quartan ...	...	341	142. Ectopic gestation ... —	1	
(d) Unclassified ...	...	7,074	147. Toxaemias of pregnancy —	37	
39. Blackwater fever ...	...	1	150. Other conditions of the puerperal state ... —	853	
Trypanosomiasis ...	...	5	151-153. Diseases of the skin and cellular tissues.		
Yaws ...	...	338	154-156. Diseases of the bones and organs of locomotion.		
40. Ancylostomiasis ...	...	3,868	Diseases of the skin, cellular tissues, bones and organs of locomotion ... 36,777	14,438	
42. Other helminthic diseases including Schistosomiasis ... 4,535	1,742		157. Congenital Malformations.		
44. Other infectious and/or parasitic diseases ... 1,315	889		158-161. Diseases of early infancy.		
45-55. Cancer and other tumours.			Congenital malformations and diseases of early infancy 24	22	
45-53. Malignant ...	...	41	158. Congenital debility (children under one year) 3	12	
54. Non-Malignant ...	...	143	159. Premature birth ... 10	8	
55. Undetermined ...	...	3	162. Old age.		
56-69. Rheumatism, diseases of nutrition and endocrine glands, and other general diseases.			Senility 18	3	
56. Rheumatic conditions ...	2,726	1,831	163-198. Affection produced by external causes.		
59. Diabetes ...	...	1	163-171. Suicide ... 1	—	
60. Scurvy ...	...	4	194. Other forms of violence 35,108	8,724	
61. Beri-beri ...	...	4	199-200. Ill-defined diseases.		
62. Pellagra ...	...	46	200. Ill-defined diseases 6,273	2,403	
63-69. Other diseases :—					
(a) Nutritional ...	...	—	TOTAL : ... 158,748	73,834	
(b) Endocrine glands and general ...	...	19			
		23			
70-74. Diseases of the blood and blood-forming organs.					
70-74. Diseases of the blood and blood-forming organs ...	108	62			
75-77. Chronic poisoning.					
75-77. Acute and chronic poisoning	9	—			
78-89. Diseases of the nervous system and sense organs.					
82. Cerebral haemorrhage ...	62	13			
87. Other diseases of the nervous system ...	910	331			
88. (a) Trachoma ...	...	18			
(b) Other diseases of the eye and annexa ...	...	6,560			
89. Diseases of the ear and mastoid sinus ...	...	5,621			
	3,080	1,701			

